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Author: Ms. Anna Cammaro
Indonesia

Ms. Denis Sindy
Indonesia

TROUBLESHOOTING CHALLENGES FOR INDONESIA'S AMATEUR ROCKETRY COMMUNITY

Abstract

This paper examines the obstacles encountered by Indonesia's amateur rocketry community in establishing a sustainable ecosystem for experimental rocketry. Despite the growing interest in rocketry among students and hobbyists, the sector encounters substantial legislative, logistical, and technical obstacles. The study seeks to identify difficulties, evaluate worldwide best practices, and provide solutions to address the talent and resource deficiencies in Indonesia's burgeoning space sector.

This paper derives from insights obtained at a Study Space Series webinar hosted by Antarexxa Space Global, leading space advocacy and education organization in Indonesia, which included Indonesian rocketry communities, academic representatives, and policymakers. Principal players, encompassing BRIN (National Research and Innovation Agency), academic institutions, and commercial sector representatives, offered insights on policy restrictions, licensing procedures, access to propellants, and the necessity for an organized national rocketry association. A comparative investigation with international amateur rocketry frameworks, including the National Association of Rocketry (NAR) in the United States, was performed to ascertain best practices.

Findings have indicated that Indonesia's amateur rocket community has challenges due to intricate and ambiguous legislative frameworks, restricted availability to essential materials like oxidizers and propellants, and a lack of organized support for rocketry endeavors. The absence of a dedicated national association impedes the community's development, while stringent laws on aeronautical experimentation obstruct amateur rocketeers from engaging in significant research. The lack of specialized launch sites and financial limitations have led to the stalling of national rocketry contests, including Komurindo, since 2017. A collaborative initiative among governmental bodies, academic institutions, and private sponsors is essential to rejuvenate and maintain amateur rocketry endeavors.

Indonesia must develop a specialized amateur rocketry group to offer regulatory clarity, advocacy, and organized activities for enthusiasts to tackle these difficulties. Optimizing licensing processes, obtaining approved launch locations, and facilitating access to unrestricted propellants will promote a secure and innovative rocketry ecosystem. Moreover, public-private partnerships and academic cooperation can facilitate skill enhancement and offer funding prospects. This paper suggests that, in the absence of systematic policy reforms and institutional assistance, Indonesia may forfeit the opportunity to develop a trained aerospace workforce and attain independent launch capabilities in the future.